

I. Choose the correct answer: 12x1=12

1. When the reflecting surface is curved outwards, the mirror formed will be _____.
a) concave mirror b) convex mirror
c) plane mirror d) biconvex mirror
2. The size of an air bubble rising up in water _____.
a) decreases b) increases
c) remains same d) may increase or decrease
3. In current electricity, a positive charge refers to _____.
a) presence of electron b) presence of proton
c) absence of electron d) absence of proton
4. When we mix a drop of ink in water we get a _____.
a) Heterogeneous mixture b) Compound
c) Homogeneous mixture d) Suspension
5. Elements with stable electronic configurations have eight electrons in their valence shell. They are _____.
a) halogens b) metals c) noble gases d) non metals
6. The hydrated salt of copper sulphate has _____ colour.
a) red b) white c) blue d) green
7. Nerve cell does not contain _____.
a) axon b) nerve endings c) tendons d) dendrites
8. Transpiration takes place through _____.
a) fruit b) seed c) flower d) stomata
9. Stomach of human beings mainly digests _____.
a) carbohydrates b) protein c) fat d) sucrose

10. Food and Adulteration Act was enforced by government of India in the year _____.

- a) 1964 b) 1954 c) 1950 d) 1963

11. Earth worms are sensitive to _____.

- a) air b) light c) water d) soil

12. All the factors of biosphere which affect the ability of organisms to survive and reproduce are called as _____.

- a) biotic factors b) biological factors
c) abiotic factors d) None of the above

II. Answer any seven of the following: 7x2=14

13. What do you know about pitch of screw gauge?
14. State Pascal's law.
15. Write the spherical mirror formula and explain the meaning of each symbol used in it.
16. How do atoms attain Noble gas electronic configuration?
17. Give the significance of pH of soil in agriculture.
18. Identify whether the given substance is mixture or compound.
i) sand and water ii) water and oil
iii) concrete iv) sand and iron filings
19. List out any two challenges faced by hydrophytes in their habitat.
20. Give abbreviations for the following:
i) FPO ii) FSSAI
21. Why do we sweat?
22. To which directional stimuli do the following respond:
a) roots b) shoots

III. Answer any seven of the following: 7x4=28

23. Draw ray diagrams to show how the image is formed using

a concave mirror when the position of object is

- a) at C b) between C and F

Mention the position and nature of the image in each case.

24. Explain the types of transformer.

25. Rubbing a comb on hair makes the comb get - 0.4C.

a) Find which material has lost electron and which one gained it.

b) Find how many electrons are transferred in this process.

26. a) Match the following:

Column A

Column B

- | | | |
|------------|---|---------------|
| i) Tomato | - | Tartaric acid |
| ii) Grape | - | Lactic acid |
| iii) Apple | - | Oxalic acid |
| iv) Curd | - | Malic acid |

b) State whether true or false. If false, correct the statement.

i) Oil and water are immiscible in each other.

ii) Aspirin is composed of 60% carbon, 4.5% Hydrogen and 35.5% oxygen by mass. Aspirin is a mixture.

27. State any four features of modern periodic table.

28. Write any four uses of bases.

29. What is IUCN? what is the vision of IUCN?

30. What are the effects of consuming adulterated food?

31. Draw and label the parts of Excretory system.

32. Mention the differences between stomatal and lenticular transpiration.

IV. Answer in detail:

3x7=21

Part - A

33. Explain with diagrams how refraction of incident light takes place from:

a) Rarer to denser medium

b) denser to rarer medium

c) Normal to the surface separating two media.

(or)

34. Describe the construction and working of Mercury Barometer.

Part - B

35. i) Explain Tyndall effect and Brownian movement with suitable diagram.

ii) State modern periodic law

(or)

36. i) Write any five uses of salts.

ii) Identify the following reactions as oxidation or reduction.

a) $\text{Na} \rightarrow \text{Na}^+ + e^-$

b) $\text{Fe}^3 + 2e^- \rightarrow \text{Fe}^+$

Part - C

37. How are vitamins useful to us? Tabulate the sources, deficiency diseases and symptoms of fat soluble vitamins.

(or)

38. Explain the structure of kidney and the steps involved in the formation of urine.